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## Electrification Section

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Power use aids are available  
to co-ops in abundance. See  
special 1957 Power Use Plan-  
ning Section, starting page 3







## *A Message from the*

# ADMINISTRATOR

*Should REA electric cooperatives serve industrial loads and residential developments? REA's position on this question is stated in a letter from Administrator Hamil, replying to a query from R. P. Luse, manager of Hancock-Wood Electric Cooperative, North Baltimore, Ohio. Mr. Hamil's letter is reprinted here as his message to the borrowers this month.—Ed.*

**T**HANK you for your good wishes expressed in your letter of August 23. The theme of your letter is challenging. You note that city people are moving to the country and building homes, that small industries are popping up here and there, and that co-ops resultantly are losing a good bit of their farm flavor. You ask whether I feel that the responsibility of REA and the co-ops will change in any way as we find ourselves with half rural people and half residential and industrial.

As I see it, Mr. Luse, the changing character of the nation's countryside does not relieve either REA or the rural electric cooperatives of their obligation to provide adequate electric service at competitive rates to all consumers within their feasible service areas.

Rather, this city-to-country movement of people and industry places on us the greater responsibility for anticipating expanding needs and demands for electricity, and to plan and act soundly and constructively to meet them.

Today rural electric cooperatives are an established segment of the nation's electric service industry. Whether they remain so depends, I believe strongly, on their ability to adapt themselves to the changing times, to establish themselves financially, and to serve their customers with a maximum of efficiency, helpfulness and business courtesy. The attainment of these objectives should be our goal for the future.

Sincerely,

A handwritten signature in cursive script that reads "David G. Hamil".

*Administrator.*

# 1957 POWER USE Planning Section



**T**HE key to successful power use promotion is advance planning. Selling any product in this competitive day and age is a complex undertaking requiring the coordination of efforts from many different directions, and that's particularly true of the co-op's product—electric power.

## Why Advance Planning?

If your 1957 power use plans aren't yet on the drawing boards, now is the time to start giving some very serious thought to what type of promotion will best meet your needs during the coming year.

Fortunately, in the sale of electric power there are plenty of expert guides available and numerous national, regional or state-wide programs to tie in with to build up that important kwh. But nobody expects any one overall plan to fit the needs of every co-op, so the final decision as to where to concentrate the power use promotion effort rests with the co-op itself.

One thing that should be borne in mind is that no sales promotion or sales campaign, no matter how well planned, is a get-rich-quick deal. It takes plenty of work over a period of time to do

a solid job, and frequently it is found that quick one-shot promotions may result in more harm than good.

The first step in intelligent planning is to take a good look at your own situation so that you can know where to concentrate your fire for best results. If your load factor isn't satisfactory and you are hitting peaks and valleys in demand on your lines, then you'll want to start planning a promotion that will give better load balance. A co-op with peak loads from summer irrigation isn't likely to want to put its promotion effort behind an air conditioning campaign, but would probably be interested in a promotion to sell electric house heating. Or maybe the situation would be such that a hard hitting promotion on high diversity appliances like electric ranges, washers and dryers or electric water heaters would give the needed boost.

If you don't have up-to-date data, an appliance and equipment survey among your consumers will be a necessary guide in your power use planning. Some

salesmen claim they can sell refrigerators to the Eskimos, but that's doing it the hard way. If your lines are pretty well satu-



rated with a certain appliance, it might be a waste of time and money to try to promote sales of more of the same. A survey is sure to turn up plenty of sales opportunities, with enough variation so that you can plan a good promotion on the equipment that will do you the most good powerwise.

The economic situation in the area you serve has a lot to do with planning promotions, too. If consumer income has sagged under long drought or other adverse conditions, you will have to do more intensive investigation to come up with solid reasons to support your sales drive. Then time your promotion to coincide with a national or statewide effort, thus adding the weight of powerful advertising and promotion forces to your own work.

Another important part of your power use planning is a good close study of your rate schedules. Maybe they aren't set up to encourage your members to install more equipment and use more electric power. If that is so, better do some revising to make the sales job easier. Rate adjustments, combined with promotions that step up power use and improve load factor, can result in healthier net margins. Of course,

it depends on the co-op's own situation. Maybe the answer would be to set up schedules to encourage usage during off-peak hours, or special blocks to cover the appliance or equipment you're promoting. In any event, rates have an important place in power use planning.

It's possible your survey will reveal that wiring limitations might cause problems for your consumers when they install more electric appliances or equipment. In that case, you may want to consider an adequate wiring promotion as a part of your power use campaign.

A prime example of thorough investigation of the market before planning a power sales program is the report prepared in 1955 by the Aiken Electric Cooperative, Aiken, S. C. to help formulate its 1956 planning. Among other things, it contains the results of an appliance and equipment survey that shows the number of each unit on the lines as well as the percent of saturation.

An analysis of consumer domestic usage, based on monthly kwh, was used to forecast the sales possibilities of various house



appliances. Combining all their information, the Aiken people set up a proposed quota of various appliances and equipment to present to dealers, along with a time schedule for promoting each. The report projected the expected sales in terms of annual kwh and gross revenue. Also included in the report were suggested rate revisions to back up the promotional activity. With such a background of information to draw on, you can plan an





intelligent and successful promotion.

Even when a co-op has the advantage of joining in a combined promotion—national, regional or statewide—management needs a clear picture of its own situation to decide whether the promotion is going to do the required job. After all, a power use promotion is successful only when it builds net return for the co-op.

Other cogent reasons for advance planning include the necessity of securing the cooperation of distributors and dealers to make the promotion click. They're the boys who get the signature on the dotted line, and unless they are sold on the merits of your plan the chances of a whopping success are remote.

When you call on the dealers in your area to get them behind a specific promotion, they'll want to know the whole story. Be prepared to tell them why you've set up the plan, how they can pick up additional appliance or equipment sales, what advertising and promotion helps are lined up, how they and the co-op can work together to mutual advantage. In a way, you've got to make electric power salesmen out of them, so they'll need to know the full story on your rates in order to have added ammunition for selling appliances to consumers.

It isn't hard to see that all this requires time. And that's true even if you have a readymade

package prepared by an inter-industry group or statewide association. Nobody but you can secure the needed cooperation from the dealers in your service area.

Talking about advance planning, the Virginia Farm Electrification Council really provides it. The Council is composed of representatives of agencies and organizations concerned with farm and home electrification, including Federal and State agencies, schools, farm groups and a couple of dozen electric service organizations of various types. They all pitch in on the job of extending the use of electric power on Virginia farms.

The Council has already set up detailed plans for next year's promotions on water systems and water use equipment (August 1 to September 30, 1957) and on farm and home lighting (October 15 to November 30, 1957).

When we say "detailed" plans we mean just that. A year in advance all the participating groups have carefully laid plans presented to them, showing the part of each in the promotions. For power suppliers, for instance, the water systems promotion plan lists the steps they should take as their part of the overall selling job. These include the following:

1. Hold informational meetings for distributors and manufacturers' representatives in their service area.

2. Make office and window dis-

play space available during emphasis period.

3. Discuss importance of water under pressure at all meetings.

4. Coordinate advertising with local dealers and distributors during emphasis month.

5. Distribute promotional literature and information to distributors.

6. Emphasize value of running water in rural contacts.

7. Organize local water system and water using equipment promotion with local dealers.

The advantage of working along with a state or national group is illustrated by the contacts such a group can make—arrangements that would probably be impractical for an individual co-op to attempt. For instance, on the water systems promotion the Virginia Council has solicited the support of all the agencies and organizations that come readily to mind. But over and above that they have arranged for cooperation from the state bankers' association to publicize the financing service available to purchasers of pumps and water use equipment; the state association of fire underwriters to promote the value of pressure water systems as a means of fire prevention, and have requested the well drillers association to take an active part. In the home lighting promotion, the association of optometrists and association of opticians have been asked

to promote better lighting as a natural part of their service to the communities.

Another example of thorough advance planning is North Carolina's "Tarheel Plan For Rural Electric Living," developed by the Tarheel Electric Membership Association. This is a complete power use program set up by the association for North Carolina's electric co-ops, dealers and distributors.

The plan is comprehensive and gives co-ops and dealers a complete picture of the year's promotions. It ties in with the national "Willie Wiredhand" dealer program and with the national Inter-Industry Farm Electric Utilization Council's power use calendar. Co-ops who join a well planned, coordinated effort like this have a head start towards their power use goal. Incidentally, during the Tarheel Plan electric range promotion last April and May 1,609 consumers on the lines of the participating cooperatives switched from some other fuel to electric cooking.

REA's recently issued bulletin, "Developing a Better Electric



Farming Program," is a rich source of ideas for all co-ops planning a power use promotion to fit local needs. This is a step-by-step guide for planning your power use promotion, starting with an appraisal of the co-op's status and needs and carrying right through the conduct of a survey, the planning of promotion and into the





mechanics of following through the plan to its completion.

Every co-op should make full use of the helps available, even though power use promotion may already be an established practice. New ideas are always helpful and, of course, it pays to time your work to coincide with national, regional or statewide promotions. Other invaluable aids are the "Farm Electric Power Use Calendar," a booklet set up on a monthly basis and packed full of reminders and suggestions for power use sales, and the "Electric Sales Promotion Handbooks," a kit containing reams of information on the why's and how's of power use sales. Both are published by the Inter-Industry Farm Electric Utilization Council, P. O. Box 577, Washington 4, D. C. Copies of the calendar booklet are available for 35 cents, and the Handbooks kit may be obtained for \$3.50 each.

Start your 1957 planning right now. Decide just what kind of a power use promotion you need. Follow the advice found in the various publications mentioned above. And then, if possible, time your promotions to go along with the plans outlined by a national or statewide group.

### Teamwork Pays

There are all kinds of successful power use promotions that can be pointed out as examples to follow. Everyone will probably agree that programs combining the efforts of many different groups have an advantage over individual campaigns. In a group promotion it is possible to draw in

many more interested participants. Manufacturers, for instance, may not find it economically feasible to take active part in a promotion staged by one co-op, but they'll perk up their ears when they hear that a campaign is going to cover an entire state or an even larger area. Distributors and dealers can be lined up with less difficulty, and county agents, farm groups, civic organizations and press, radio and TV representatives will get behind the effort.

The result of such coordination is that the area will be completely blanketed and the promotion is likely to go over with a bang. Smaller co-ops, especially, can profit by joining in these group promotions since they would as a rule be limited in the amount of money they can spend on power use promotion and power use personnel.

Recognizing the value of combining efforts on power use work, the Inter-Industry Farm Electric Utilization Council has set up a schedule of promotions for the year 1957, just as it has in previous years. Council members represent power suppliers and the Council works with all segments of the industry in its promotional work. With this kind of national support behind the program, it's worth while following the schedules the Council suggests in its power use calendar and to make use of the guides it

provides for carrying out the program. This holds true whether you intend to promote all the equipment and appliances suggested, or to concentrate on only a couple of items.

After you've made the preliminary studies, it may turn out that farm water systems, or maybe electric ranges, will be the answer to your power use needs. Unless special local conditions would make it impractical, you should time your promotions to go along with the Power Use Calendar. This gives you the advantage of riding in on the crest of a wave of national publicity and advertising addressed to your prospective buyers.

The same good reasons apply to participation with state and local groups. Every co-op should give all possible help to make a success of the promotions sponsored by these groups. There is a lot of money, sound planning and promotional know-how behind these efforts, and it would be an exceptional cooperative indeed who could afford to pass up the sales opportunities available.

The Kentucky Inter-Industry Farm Electric Council, like most such groups composed of representatives of manufacturers, power companies and rural cooperatives, staged a special electric skillet promotion this past July that was a fine example of what

coordinated efforts can accomplish. The advance plans set out in detail just what steps would be taken by the co-ops, power companies, manufacturers and distributors, and told the appliance dealers how they could cash in on the deal.

Representatives of the co-ops and power companies called personally on dealers in their respective areas, invited them to scheduled breakfast meetings and explained the purpose of the meetings. Twenty-five of these meetings were held to outline the promotion in detail, with a total of 450 persons attending.

During the month of July the heat was turned on. Co-ops plugged the promotion in their statewide paper and their newsletters; power companies featured the electric skillets in their publications to consumers and ran advertisements in more than 100 newspapers throughout the state; the plan was featured in a monthly bulletin to more than 600 dealers; 5,000 posters for dealers' windows were distributed; dealers ran tie-in ads in many newspapers; 5,000 copies of a promotion folder for consumers were provided to dealers; a large number of electric skillet demonstrations were staged by dealers, the co-ops and the power companies.

When the month was over and the score was added up, a total of 5,132 electric skillets had been sold. Aside from the imposing total of kwh represented in those sales, co-ops benefited by a strengthening of their relationship with dealers and manufacturers, and there was a definite increase in the sale of other appliances to Kentucky dealers



which should be felt at the consumer level during the fall and winter. More important, electric cooking has its "foot in the door" with those 5,000-plus buyers, providing an opportunity for conversion to all-electric cooking later on.

Many states have similar inter-industry groups, or statewide co-op associations which plan and coordinate power use promotions. It might be well to mention here that inter-industry councils and



statewide associations perform many other important functions on a year-round basis,

but the present discussion is limited to power use planning. The year-round good will and educational work that these groups do is an important factor in smoothing the road for the "big push" on special power use promotions.

When a statewide drive may not be feasible, it might be a good idea to combine ideas and resources with one or more other co-ops or power suppliers in your immediate area. The Northeast Georgia Water Systems Fair held this year was a big success, even though only three power suppliers were involved. It was planned by the Georgia Farm Electrification Council, and cooperation of manufacturers, distributors and other groups was secured because those three suppliers served about 27,000 farms in a fairly concentrated area. So you see a large group of power suppliers is not a prerequisite for a successful promotion.

At the other end of the scale, Minnesota's 1956 Aqua-Scopes had 52 rural electric associations taking active part, so you can bet

that there was no difficulty in getting plenty of support from manufacturers, distributors, dealers, contractors and anyone else interested in the sale of all the things that go into farm water systems. The *Minnesota REA News* was the organizing force behind this big deal.

Still another group who engage in combined power use activities are G & T borrowers and their distribution co-ops. Sho-Me Power Corporation, of Missouri, is an example of effective cooperation of this type of group.

Sho-Me and the co-ops have carried on year-round promotions for a number of years, and report steady power use gains. There is a coordinated group, composed of power use personnel from the power supplier and power use people or other representatives from the co-ops, which meets every two months to consider any new ideas that could be adopted for the program. Even though the annual program is mapped out in advance, these bi-monthly meetings continue in order to keep abreast of all new developments.

Under the Sho-Me plan the general power use program is set up in advance, but there is plenty of flexibility so that the individual co-ops can adapt it to their own needs and capabilities. The program is a broad plan that will be explained more in detail elsewhere in this article.

Even with all these various





group promotions available, it is possible that a co-op may have a specialized problem that requires it to go it alone on power use work. In this case, even the smallest co-op can set up and carry out a workable plan. There's plenty of help to be had from the publications mentioned above, and REA's power use specialists can be called in for assistance.

For instance, a small rural electric cooperative in the Far West had run into power use difficulties uncommon among REA borrowers. REA staff men worked with the manager on analyzing the situation and came up with a 12-point program designed to help build kwh, but at the same time kept within the limitations of the co-op which is too small to carry a power use adviser on the payroll.

Among the things posing difficulties for this co-op is the type of membership on the lines—more than half seasonal residents or retired city workers with sharply limited incomes. Furthermore, among the full-time



residents there is very little agricultural activity, so the power use increase needs to be concentrated on household use. That sounds easy enough, perhaps, except that the co-op is located in an area where other fuel is very cheap, and over the years a large number of the members have grown into the

habit of using that fuel for refrigeration, cooking and water heating and own that type of appliances.

Anyway, all the factors were taken into account, and a program designed especially to overcome the obstacles was drawn up and presented to the board of directors for approval. Everyone concerned — the directors, the manager and the cooperating appliance dealers — realize that it won't be a quick or easy job. But they've got a plan with a definite goal and you can bet they'll stick to it to build up kwh and net returns.

Whatever way you go into your power use promotion, be sure to keep in mind the tremendous helps that are being provided by national organizations. The "Willie Wiredhand Dealer Program," a hard hitting campaign designed specifically for the rural electric market, sets up the basis of cooperation between appliance and equipment dealers and the rural cooperatives. When both sides carry out their outlined duties and responsibilities, the net result is bound to be beneficial for both.

Still another national campaign that makes your power use job easier is the "Live Better . . . Electrically" promotion. This nationwide campaign is making people everywhere think in terms of electrical conveniences, and every co-op should design its own promotion to cash in on the ac-

ceptance built by this program.

"Housepower" is another electric industry campaign doing an effective job throughout the country. Goal is to upgrade home wiring to meet demands of new electrical appliances.

## What Kind of Promotion?

After you discover just what you need in the way of added load on your lines, and then decide which "team" you are going to join in your power use promotion, you've still got the important decision about what type of promotion will do the most good.

Like all advertising and selling campaigns, power use promotion boils down to one thing: persuading your customers to buy your product. There could be many possible ways to accomplish that aim and numerous factors will be involved in deciding on the right approach. Most of these various factors should show up in the preliminary survey discussed earlier, so that you'll have the necessary data to make an intelligent decision about your promotion. Without attempting to list them all, here are some of the purely local factors that could make your situation entirely different from other co-ops: you might be located in an area where other fuels are cheap to use and have become a habit with many of your consumers; it may be that your area is subject to extremes of weather; maybe your co-op hits high summer or winter peaks, with resultant poor load factor; perhaps drought conditions have affected the economy of your service area; or maybe the pattern of livelihood has changed among your consumers and they are switching to

different crops, or even switching from crop farming to poultry or livestock. All these, and other things, will have to be considered in deciding on your promotion.

There is one thing that all good power use promotions have in common — continuity. Whatever you plan, plan for the long haul. Stop-and-start power use promotion has two strikes against it before it gets under way, and it neither accomplishes all it was intended to nor does it accomplish anything economically.

Broadly speaking, there are two main types of promotion; educational and merchandising. Both kinds have been highly successful when they have been carefully planned and carried out on a long term basis.

### The Sho-Me Power Corpora-



tion's program run in conjunction with the distribution co-ops is an example of a good education-type program, although it is not so labeled as far as consumers are concerned. The program is designed and presented with high entertainment value for consumers, and much of the planning is devoted to how to get the story across in a way that will attract members to the demonstrations and hold their attention during the presentation. An indication

of how Sho-Me and the co-ops have succeeded in making their program interesting may be gained from the coverage they have got. Approximately 20,000 people in the service area saw one or more of the demonstrations last year, including vocational agricultural classes, 4H clubs, future farmer organizations, men's and women's civic clubs, church groups, farm clubs and farmer community meetings.

The whole program is geared to the theme of the services and conveniences available to consumers through electric power. Meanwhile the power use personnel of the supplier and the co-ops maintain good and friendly relations with appliance and equipment dealers, pointing out how the way is paved for them to sell electrical items to the members. As the Sho-Me people say, "Our job is to create a desire to live better electrically and allow the people to secure whatever type or kind of electrical merchandise they desire."

This plan has been successful, but on the other hand so have promotions which plugged specific appliances or equipment for certain periods of time. The water systems promotions in Virginia, Georgia and Minnesota really got results, as did the electric skillet sales campaign in Kentucky, the electric range promotion in North Carolina and numerous other special power use promotions.

The Powell Valley Electric Co-operative in Jonesville, Va., put on a four-month special campaign this year and dealers sold co-op members 255 electric ranges, 118 electric water heaters, 82 electric water pumps and 105 electric food freezers. The additional kwh estimated from these appliances is figured to add a net annual revenue gain of more than \$20,000.

## Carrying Out The Plan

Assuming that your power use plan has been set up, the important thing to remember is that the answer to its success lies with the individual co-op. No matter how many other organizations are co-operating in the effort, only you



can make it work for your co-op. Farm electrification councils, statewide groups or other combinations can set up elaborate plans and obtain the cooperation of manufacturers, dealers and other important organizations, but the job of selling your power use is up to you. That means making effective use of all the tools provided, maintaining close and friendly relationships with appliance and equipment dealers, providing sales leads to these dealers and, above all, giving your members good electric service at the lowest possible cost so that they will have reason to convert to all-electric living.

It's easy to see that good, effective power use promotion is a big job. But with the advice and practical helps available there is no reason why any co-op shouldn't make a real success with its power use sales program.



# SAFETY



REA safety engineers, with facts and figures to prove that office workers are subject to numerous occupational hazards, urge electric co-op management to set up job safety training for office personnel. An injury occurring during routine office procedure can be just as costly in human suffering, lost work time and compensation expenses as one that happens on hot line work.

Here are a few check points for office job safety:

When seated, keep all four chair legs on the floor. Tilting a chair back is a dangerous practice.

To reach articles overhead, stand on a ladder or stool made for that purpose. Never use a makeshift such as a box, chair or books.

Keep desk and cabinet drawers closed. They can cause serious injury from tripping or collision.

Use caution in closing vault or safe doors. Careless handling can result in crushed fingers.

Keep file cabinet drawers filled as evenly as possible. Overloaded top drawers can cause the whole cabinet to tip over.

Use care in handling even such simple desk equipment as paper staplers, pens, pointed pencils and scissors to avoid puncture wounds.

When smoking is permitted, provide ash trays with center holders for disposal of lighted matches, cigar and cigarette butts. Never use wastebaskets as ash trays.

Keep electric fans, except the specially designed safety fans, off desks and low shelves. Never use the hand to start or stop a fan blade.

Be sure that all belts, gears, pulleys and other moving parts of mechanically operated office machines have adequate guards to prevent fingers or clothing from being caught.

Always get help to lift heavy or awkward objects. Never carry objects in such a way that your front view is obstructed.

Keep stairways free of objects. Instruct employees to use hand-rails when going up or down stairs.

Never keep exposed knife blades or razor blades in a desk drawer.



## Are You Training Workers for Top Jobs? 3 Out of 4 New Managers Now Come

# Up Through The Ranks

**T**HE importance of REA electric borrowers developing a pool of trained and qualified employees capable of assuming managerial responsibility is shown in a study of manager turnover and background recently completed by REA's electric operations and loans division. Currently three out of four new managers are coming up through the ranks.

During the years 1951 through 1955, the study shows, there were 311 changes in managers among borrowers, an average annual turnover of 6.7 percent during the 5-year period. Included in the study were 909 distribution borrowers and 31 power type borrowers, a relatively stable figure that diminished only 1.3 percent during the 5-year period under examination.

Highest turnover rate was shown in the year 1951, with a national average of 9.4 percent. During the succeeding four years the rate leveled off to an average turnover of 6.2 percent, which could logically be assumed to continue during the current year. In that case, 56 manager changes will have taken place among electric borrowers during 1956.

There's usually no dearth of applicants to fill managerial vacancies, but co-op directors are faced with an important decision in choosing the best qualified man.

Just recently a South Dakota co-op had 16 applications for the position of manager. The directors unanimously decided that one of their own employees was the man they wanted to run the system.

An important part of the REA study was an assessment of the backgrounds of managers appointed during 1954 and 1955. Of the 110 new managers taking over the positions during those two years, background information was available on 81, or 74 percent of the total.

On the basis of that data a typical new manager can be pictured as about 41 years of age, a high school graduate with about two years of college training—probably in electrical engineering. He would likely have been employed by and REA-financed system immediately prior to his appointment as manager, but this would probably be his first time in a top management job in a comparable organization.

Following are the actual facts used to picture this mythical manager:

Age	No.	Age	No.
25-27	1	43-45	14
28-30	5	46-48	8
31-33	15	49-51	2
34-36	7	52-54	4
37-39	9	55-57	5
40-42	10	58-60	0
		61-63	1

Educational background information reveals that four new managers attended grade school

only; 34 were high school graduates; 21 had some college training but no degree, and 22 were graduated from college. Of the latter, 14 majored in electrical engineering, 5 in business administration and one each in civil engineering, agriculture and the liberal arts.

Of the 81 new managers studied, 64 had been associated in some capacity with an REA co-op just prior to selection as manager. Here are the former posi-

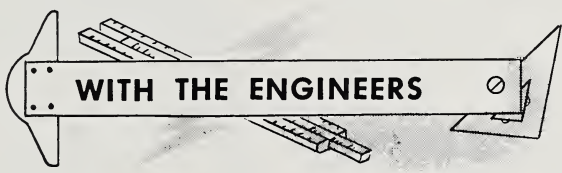
tions they held with rural electric co-ops:

Manager, 14; assistant manager, 13; officer manager, 16; engineer, 7; director, 2; electrification adviser, 2; line superintendent, 3; lineman, 5; dispatcher, 1 and unclassified, 1.

The remaining 17 new managers were recruited from business firms (8), engineering companies (5), government (2) and farming (1). One was unclassified as to previous appointment.

To qualify as a good electric co-op manager a man has to be a contortionist. Why? Well, he has to have his back to the wall, his ear to the ground, his shoulder to the wheel, his nose to the grindstone, he must have a level head, he must keep both feet on the ground, and he must keep his head in the clouds to always see the silver lining.

—Minnesota REA News.



**Air disconnect switches** are not made to interrupt load current. Drop load with a recloser or other oil switch.

• • • • •

**Voltages of 6,000 volts** have been measured on ungrounded delta secondaries of three-phase banks. Never omit the secondary ground!

• • • • •

**Connecting the coil side of a recloser** to the source is a simple safety measure which can prevent injury to the lineman in the event of recloser failure.

• • • • •

**Maximum safety in the farmstead** can be had only by interconnecting equipment grounds, water pipes and sewer pipes with the electrical service neutral.

• • • • •

**Building hardware** should be checked, adjusted and oiled periodically.

• • • • •

**Conductor burndowns** caused by loose clamps can be reduced by the use of spring-type hot line clamps.



## Plaque to Honor Memory of George Lewis

**F**RRIENDS of the late George A. Lewis, both in REA and among the rural electric cooperatives he helped to pioneer, have joined in a memorial tribute in the form of a bronze plaque to be affixed to a new 50,000 kw turbo-generator at the Alma station of the Dairyland Power Cooperative in Mr. Lewis' home state of Wisconsin.

The plaque reads:

"In memory of George A. Lewis, this memorial plaque is dedicated by his REA friends and acquaintances for his ceaseless and untiring efforts and devotion to duty in pioneering the objectives of rural electrification."

The memorial is the result of an oversubscription by Mr. Lewis' fellow employees to a flower fund at the time of his death in 1955. De-

cision on the memorial plaque was made by a committee of REA staff people, assisted by Manager John P. Madgett, of the Dairyland Power Cooperative.

The Wisconsin statewide association of electric cooperatives will likewise pay tribute to Mr. Lewis by placing a marker on his grave in his home town of Pigeon Falls, Wis. The association will hold graveside ceremonies, at the conclusion of which the generator bearing the plaque will be started by remote control. It is expected that the ceremony will be held in the spring.

Mr. Lewis served with REA for 20 years. He was head of Operations Section 5, North Central Area, at the time of his death in May, 1955.

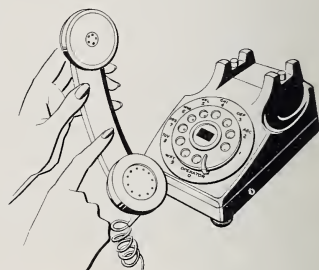
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## Direct Phone Lines Speed Electric Repair Service

Repair service has been speeded up and co-op consumers have saved time and expense under a service-call arrangement made by the Magic Valley Electric Cooperative, Mercedes, Texas, with the Southwestern Bell Telephone Company.

In the event of service trouble, co-op members can call without charge a number that connects them directly with their repair service dispatcher, who then calls the repairman nearest the trouble by two-way radiotelephone.

Manager J. E. Wilder reports that the arrangement has proven satisfactory both to the co-op and



its members since the special telephone service was inaugurated early this year.

Formerly, electric service troubles had to be reported to various offices or to night residence numbers by local or long distance calls. This required the co-op to provide coverage of office and residence telephones around the clock in all districts. The Magic Valley Co-op serves 31 communities in an area having a radius of 30 miles.

# Rural Lines

## Telephone Section

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These colorful posters, 25 by 38 inches in size, are available to help in your subscriber sign-up promotions. Get them free of charge by sending your request to Information Services Division, Rural Electrification Administration, Washington 25, D. C.



# The Open Wire Test Set

## This Portable 'Detective' Saves Time and Money in Telephone Trouble Shooting

**E**VEN the best operated telephone systems are confronted by the difficulty of faults on the line. They're something we just have to face up to. But REA's technical operations and maintenance engineers remind borrowers that the important thing is to locate and clear these faults just as quickly and economically as possible.

The engineers point to a simple portable open wire test set that enables maintenance men to spot faults quickly, so that interrupted service can be restored with a maximum of speed and minimum of trouble shooting costs.

The open wire test set is essentially a crank-operated magneto tone generator which, when clipped to the open wire circuit, produces a tone in the circuit. The direction of flow of the tone is determined by an exploring coil and receiver, indicating the direction of the fault from the zone of operations.

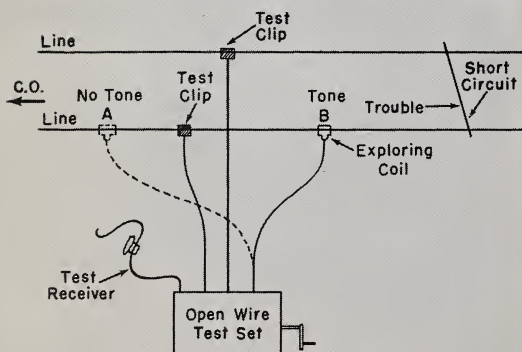
The set, selling for less than \$100, weighs about 20 pounds,

and can easily be carried in one hand. A carrying strap permits it to be slung over the shoulder for unencumbered climbing and the use of both hands in making the test on the circuit.

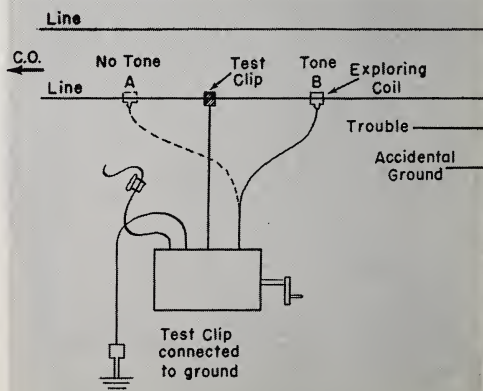
Besides speeding up the trouble shooting job, the test set eliminates the old "cut, test and splice" method of locating faults, a procedure that was not only painfully slow but also introduced many future troubles into the wire plant. Back in the days of the "crank and holler" telephones it was usual for maintenance men to open up aerial wire circuits by untwisting splices, removing connectors or cutting the line wire so that tests could be made to find the direction of a fault. This practice not only wasted a lot of valuable time, but resulted in a hodgepodge of spliced wire plant.

This hit or miss method led to numerous high joints on the line. Poor workmanship was certain to lead to noisy circuits, cold weather wire breaks and consequently additional bad weather trouble

**Testing for a short circuit.**



**Testing for a ground.**





shooting. As a matter of fact, even the best workmanship was likely to produce those same bad effects.

It seemed that the introduction of rolled splices and compression sleeves should have eliminated that trouble, but many maintenance men went merrily on their way cutting, testing and splicing—and open wire trouble continued at a high rate. The situation was aggravated still more when the use of high strength line wire and long span construction appeared on the scene. Poor splicing of these conductors caused unequal wire sag, increasing the probability of mid-span hits which, in turn, caused noisy circuits. In the case of dial operation this also led to accelerated wear on central office equipment.

Alert and progressive telephone men have found by experience that they can profit by building good solid open wire plant, using compression sleeves for all taps and splices, and then eliminate the necessity of cutting into this wire by using the portable test set.

Several REA borrowers have recently begun using open wire test sets and they report valuable savings in both vehicle driving time and labor in locating and clearing aerial wire faults. Some of them found this equipment just

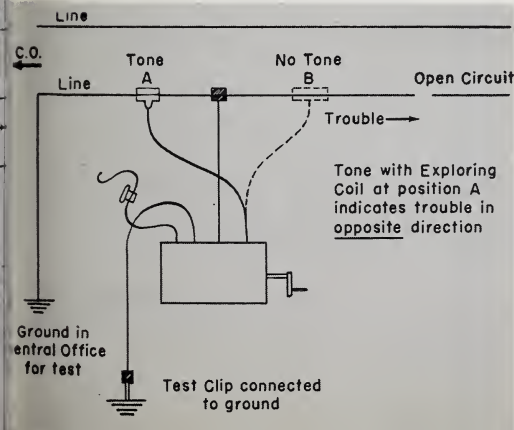
as essential in maintaining good service as the dial test handset and the multimeter, and it has become a standard tool for each combination man.

A maintenance man, working alone, can locate shorts, grounds, crosses, opens, high joints, tree leakage, drop wire leakage and many other types of troubles with this piece of equipment. The test set unfailingly gives him the direction of the fault, and it has been found that after experience many men can accurately judge the distance of the fault by the intensity of the tone picked up.

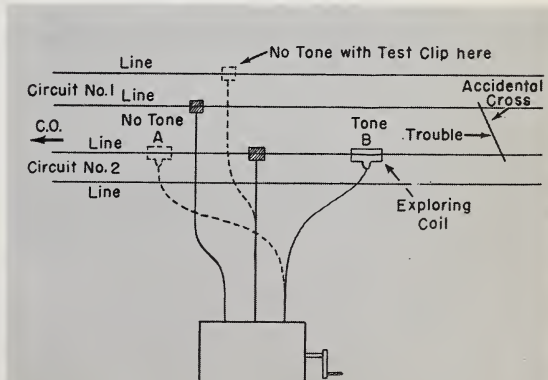
The accompanying illustrations show how the test set is used in locating several types of faults. Since the tone flows along one wire of the circuit in the direction of the fault, then through the fault and back on the other wire to the generator, the maintenance man easily detects the direction of the fault by placing the detector first on one side of the test clips and then on the other. In the case of an open, of course, the tone flows in the opposite direction of the fault since the line is deliberately grounded to facilitate testing.

Telephone borrowers, the engineers say, will find these little “detectives” a real time saver and plant saver.

**Testing for an open.**



**Testing for crosses.**



## Born Almost By Accident, This Idaho Phone Company is Now Progressing

# According To Plan

**G**EM State Utilities Corporation, in the Magic Valley of Idaho, is a briskly moving little telephone company that was born more or less by accident 46 years ago, but which now provides modern telephone service for a bustling and growing area.

Probably not many of the Magic Valley residents who attended the ceremonies marking the conversion of the company's Richfield exchange to dial last year recalled how the telephone system came into existence.

President Edward L. Streigel, who switched from electrical contracting to running a modern telephone system, likes to tell the story of the background of his little rural company.

"I suppose few settlers are around today who know the full story of our system," he says. "You know, it didn't actually start out to give telephone service to rural people. That just happened to develop, more or less by circumstances.

"Back in 1910, around the same time that lands through much of the western area of the country were in an irrigation boom, the Idaho Irrigation Company was busy developing sagebrush lands of Magic Valley. The company's big project at that time was the construction of the Magic Valley irrigation dam.

"To speed up communications between the work camps and the construction site, the irrigation company laid out a magneto operated telephone system. When the dam was completed, it was found that the telephone system was mighty handy in operating the irrigation system and in contacting the farmer irrigators. The irrigation company began to sign up new settlers as telephone subscribers when they moved in after buying acreage and water rights."

Mr. Streigel says the irrigation company continued to operate its telephone system until 1927, when it leased the Richfield exchange to the farmer-operated Mutual Telephone Company. The latter operated the system until 1946, when it was sold to a private individual. Mr. Streigel came into the picture in 1951 when he bought the company.

Realizing the system needed improvements and modernization, he investigated a number of financing plans, and decided that an REA loan was the best proposition. When the funds were available he lost no time in starting to convert to dial and make plant improvements. However, he found that contract bids were considerably on the high side, so he proceeded with the modernization job by force account. Using his contracting experience as a guide,

Mr. Streigel estimates that he saved at least \$15,000 by using the force account method.

When the conversion to dial was made, about one-third of the original plant was retained. The old battery set has been replaced by unattended dial equipment at Richfield.

All of the 216 subscribers of Gem State's system are farmers who irrigate their crops and pastures. And the source of their irrigation water is that same Magic Valley dam which was the original beginning of the modern telephone service they now enjoy.

The area roundabout has begun to take on the look and atmosphere of early Magic Valley settlement times, for new irrigation development in Kamina and Lincoln counties is opening up a sizable section of farm land from sagebrush. Wells are going in and new homes are being built, with most of the new settlers breaking in their lands with grain and alfalfa and the prospects of potatoes coming in a season or two.

Mr. Streigel is keeping close tab on land operations there, with an eye to putting in a modern tele-

phone exchange when the number of settlers justifies it.

However, immediately ahead is the job of converting the Grandview and Bruneau exchanges in Owyhee and Elmore counties. REA has approved a loan to install these exchanges and construct outside plant. The new exchanges will add more than 200 subscribers to Gem State's system.

Until recently Gem State could be described as like Topsy—it "just grew." But with its forward looking owner, with energetic settlers moving into the valley, new lands being broken out and seeded to crops, and with irrigation providing the magic touch to farming in the area, the little company is set on a definite goal of growing and progressing with the area it serves.



## REA Studying Aluminized Line Wire

REA's telephone engineering division reports that trial of aluminized steel wire is under consideration on an REA borrower's project in Louisiana, where corrosive atmospheric conditions are severe and Grade A galvanized steel is not recommended. The aluminum is applied to steel wire by a hot dip method. The aluminum thickness on .109-inch diameter wire is about the same as the zinc on Grade A galvanized steel

wire.

REA has requested detailed engineering information about the wire to determine its acceptability for the REA borrower's use. The manufacturer of the wire claims it has lower resistance than the same gauge wire with zinc coating, due to the lower resistivity of the aluminum as compared to zinc. Standard zinc coated hardware is said to be satisfactory for use with this wire.



# TELEPHONE

## Opinion Survey

### Independent Companies

### Offer Views On

### REA Program

**A**N interesting picture of the scope of rural telephone operations and what the system managements think of the REA telephone program is provided by a survey recently completed by REA's telephone consultants.

The questionnaire-type opinion survey, prepared by the consultants and carried out with the co-operation of REA and the Independent industry, was mailed to 4,939 Independent telephone companies throughout the country, of whom about 23 percent returned the completed forms.

Rural companies' need for extension and modernization of subscriber service is indicated by the fact that 72 percent of those replying stated that they could use borrowed capital to good advantage to improve and extend their systems. Forty-six percent said they thought they could obtain needed funds from private sources under satisfactory terms and conditions, but 44 percent said they had no such private sources available. Ten percent of the replies contained no answer to this question.

An idea of the extent of the

survey and the service area covered is shown by the geographical breakdown of the replies. Forty-four states and Alaska are represented in the returned questionnaires. The reporting systems operate more than 4,000 exchanges, providing telephone service to nearly 4 million subscribers. Multi-party rural stations make up about 890,000 of the total served.

Following is a breakdown of the type of companies replying:

	<i>Percent</i>
Corporation .....	57
Mutual .....	12
Cooperative .....	10
Partnership .....	4
Individually Owned .....	16
No Answer.....	1

The majority of those replying, 68 percent, said that they are familiar with the REA telephone loan program for the improvement and expansion of rural systems. Twenty-seven percent said they are not acquainted with the program and the remaining five percent gave no answer to this question. Sixty percent of all replying companies said that they think the REA program is a suitable source of financing for the telephone systems serving small towns and rural areas.

The questionnaire asked for comments or suggestions about the REA program, and 61 percent took advantage of the opportunity to express their views. Replying companies were not asked to identify themselves, so opinions were freely stated. Most frequently mentioned observations were that the cost of preloan work is too high, and that rigid specifications and engineering expense required ran plant costs too high. Eight percent of the respondents mentioned both of these objections.

Other comments offered includ-

ed the statement that smaller loans were preferred for adding to or improving existing plant (seven percent); that REA assumes too much control over borrowers (five percent); that too much time is required to obtain a loan (four percent); that the equity requirements are difficult to meet (three percent) and that loan requirements in general are too stringent (two percent).

On the other hand, a substantial number indicated satisfaction with the telephone program as it is now set up and were complimentary in their comments. In

addition, five percent had their interest aroused by the questionnaire to the extent that they requested fuller information about the REA program. Some replies included estimates of future needs for REA loans, providing valuable budget data for use by REA.

REA's telephone consultants comprise men whose judgment and experience in all fields of telephone operations are made available to help REA shape the loan program to fit the borrowers' needs and get more and better telephone service into farming areas.

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### **Promotion Aids Available to REA Telephone Borrowers**

Promotion-minded REA telephone borrowers will be interested in two publicity aids recently made available to TV and radio stations by the U. S. Department of Agriculture.

The first, a telecast news release, is called "Rural Telephones," a package of six photographs and an explanatory script, showing some of the benefits REA telephone loans are bringing to rural subscribers. It also points out the convenience of locating extension phones in the milk house and the poultry house, as well as in the farm kitchen.

This release has been sent to 150 TV farm directors, county agents and others conducting telecasts of special interest to farm families. The feature can be used at any time at the discretion of the telecaster or the station. Check with your local TV station or county agent about the possibility of tying in a local promotion of subscriber sign-up or extension telephones with a showing of "Rural Telephones."

A radio tape recording of a brief interview with REA Assistant Administrator J. K. O'Shaughnessy on "The American Farmer," ABC network farm program, is available to radio stations. The subject of the interview was the plan for testing new automatic dial radio telephone equipment on the lines of REA-financed telephone systems within the next few months.

The interview runs just under two minutes and can be ordered by any radio station directly from USDA's Radio and Television Service, Office of Information, Washington 25, D. C. Catalog number is 16 Q 86. Enough blank tape for dubbing the sound should be sent with the request.

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**Loans Approved August 11 through September 21, 1956**

**Electrification**

\$ * 50,000	Arkansas Valley Elec. Co-op, Ozark, Ark.	355,000	Smithville Telephone Co., Ellettsville, Ind.
90,000	Panola-Harrison Elec. Co-op, Marshall, Texas	73,000	Ohio Valley Telephone Corp., Edwardsport, Ind.
100,000	Pointe Coupee EMC, New Roads, La.	193,000	Parsons Telephone Co., Parsons, Tenn.
* 50,000	Carteret-Craven EMC, Morehead City, N. Car.	147,000	Planters Rural Telephone Co-op, Millen, Ga.
170,000	Sullivan County Rural Elec. Co-op, Forks ville, Pa.	144,000	Northland Consolidated Tel., Inc., Twig, Minn.
184,000	Rural Electric Convenience Co-op, Auburn, Ill.	121,000	Runestone Telephone Assn., Hoffman, Minn.
* 50,000	Riverton Valley Elec. Assn., Riverton, Wyo.	208,000	LaValle Telephone Co-op, LaValle, Wisc.
* 50,000	Haywood EMC, Waynesville, N. Car.	388,000	Chickasaw Telephone Co., Lone Grove, Okla.
729,114	Dakotas Elec. Co-op, Bismark, N. Dak.	125,000	Lake Dallas Telephone Co., Lake Dallas, Texas
515,000	Fairfield Elec. Co-op, Winnsboro, S. Car.	74,000	Parker Valley Telephone Co., Parker, Ariz.
*100,000	North Arkansas Elec. Co-op, Salem, Ark.	178,000	Purdy Telephone Co., Purdy, Mo.
330,000	Northwestern Elec. Co-op, Bryan, Ohio	422,000	Farmers Tel. Co. of Dodge County, North Bend, Nebr.
590,000	Delaware Elec. Co-op, Greenwood, Del.	80,000	Crow Wing Co-op Rural Tel. Co., Brainerd, Minn.
385,000	Mid-South Elec. Co-op, Navasota, Texas	137,000	Central Virginia Tel. Corp., Amherst, Va.
500,000	Edgecombe-Martin County EMC, Tarboro, N. Car.	106,000	Concord Telephone Exchange, Concord, Tenn.
* 50,000	Golden Valley Elec. Assn., Fairbanks, Alaska	33,000	Plain Dealing Telephone Co., Plain Dealing, La.
* 50,000	Cavalier Rural Elec. Co-op, Langdon, N. Dak.	125,000	Tellico Telephone Co., Tellico Plains, Tenn.
2,050,000	York County Rural PPD, York, Nebr.	173,000	Marion-Oak Ridge Tel. Co., Marion, La.
1,185,000	Southwest PPD, Palisade, Nebr.	180,000	Minford Telephone Co., Minford, Ohio
451,000	Linn County Rural Elec. Co-op, Marion, Iowa	334,000	West Kentucky Rural Tel. Co-op, Mayfield, Ky.
1,400,000	Ozark Border Elec. Co-op, Poplar Bluff, Mo.	52,000	E.N.M.R. Telephone Co-op, Clovis, N. Mex.
* 50,000	Petit Jean Elec. Co-op, Clinton, Ark.	257,000	Harper County Rural Tel. Assn., Anthony, Kans.
1,040,000	Blue Ridge Elec. Assn., Young Harris, Ga.	145,000	Aberdeen Telephone Co., Aberdeen, Idaho
564,000	Kay Elec. Co-op, Blackwell, Okla.	13,000	Hebron's Home Telephone Co., Hebron, Maine
600,000	Farmers Elec. Co-op, Greenville, Texas	5,073,000	Lafourche Telephone Co., Larose, La.
*100,000	Choctaw Elec. Co-op, Hugo, Okla.	73,000	Coon Valley Farmers Tel. Co., Coon Valley, Wis.
* 50,000	Columbia Power Co-op Assn., Monument, Oreg.	92,000	Northeast Texas Telephone Co., Bogata, Texas
*430,000	Beltrami Elec. Co-op, Bemidji, Minn.	162,000	Taylorstown Telephone Co., Taylorstown, Pa.
		54,000	Solon Springs Telephone Co., Solon Springs, Wis.

**Telephone**

\$ 797,000	Siskiyou Telephone Co., Etna, Calif.
648,000	J.B.N. Telephone Co., Wetmore, Kans.

\* Includes Section 5 funds